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Towards a Joint Action Plan for Research and Development in the Offshore Wind Service Industry

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Introduction

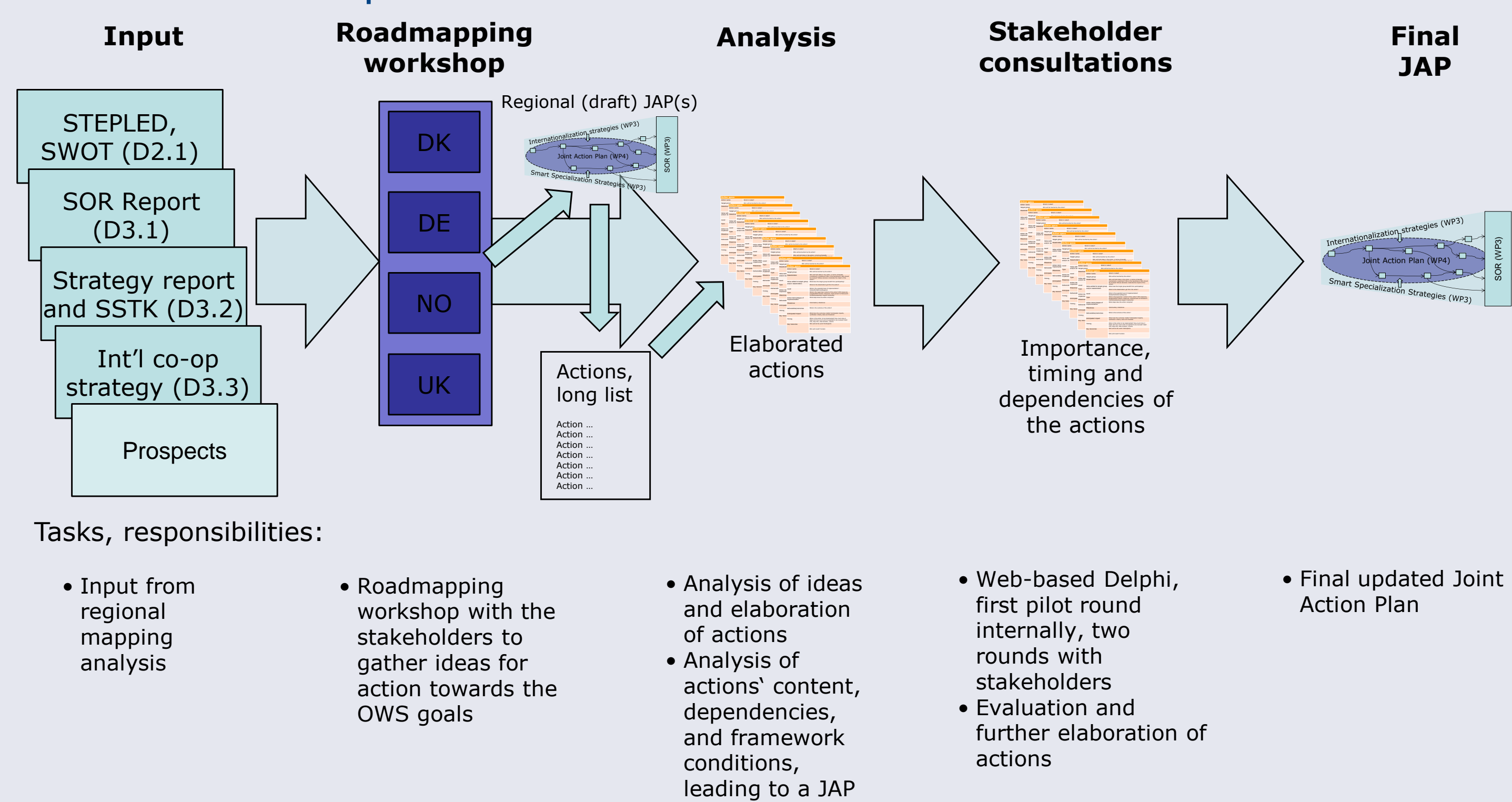
The poster presents a joint action plan (JAP) for research and development and innovation (RDI) in the offshore wind service industry in Denmark, Germany, Norway and the UK. Offshore wind servicing (OWS) is in this context defined as both assembly and installation of offshore wind farms as well as their operation and maintenance during their lifetime.

Earlier studies have indicated that over the life cycle of an offshore farm OWS can be up to 46% of the life cycle cost of the farm including up-front investment and installation, while the O&M cost is estimated to be of the order of 25-28% of the total levelized cost of energy. Hence, reducing the cost of OWS is a major challenge for the wind industry. Furthermore, the North Sea is currently the most important site for offshore wind installations, and industry clusters based on OWS are emerging in regions around the North Sea.

The JAP is a result of an ongoing project ECOWindS, funded by the EU FP7. The overall aim of ECOWindS is to reduce OWS's contribution to the cost of offshore wind energy production by strengthening the cooperation in the existing regional networks within OWS.

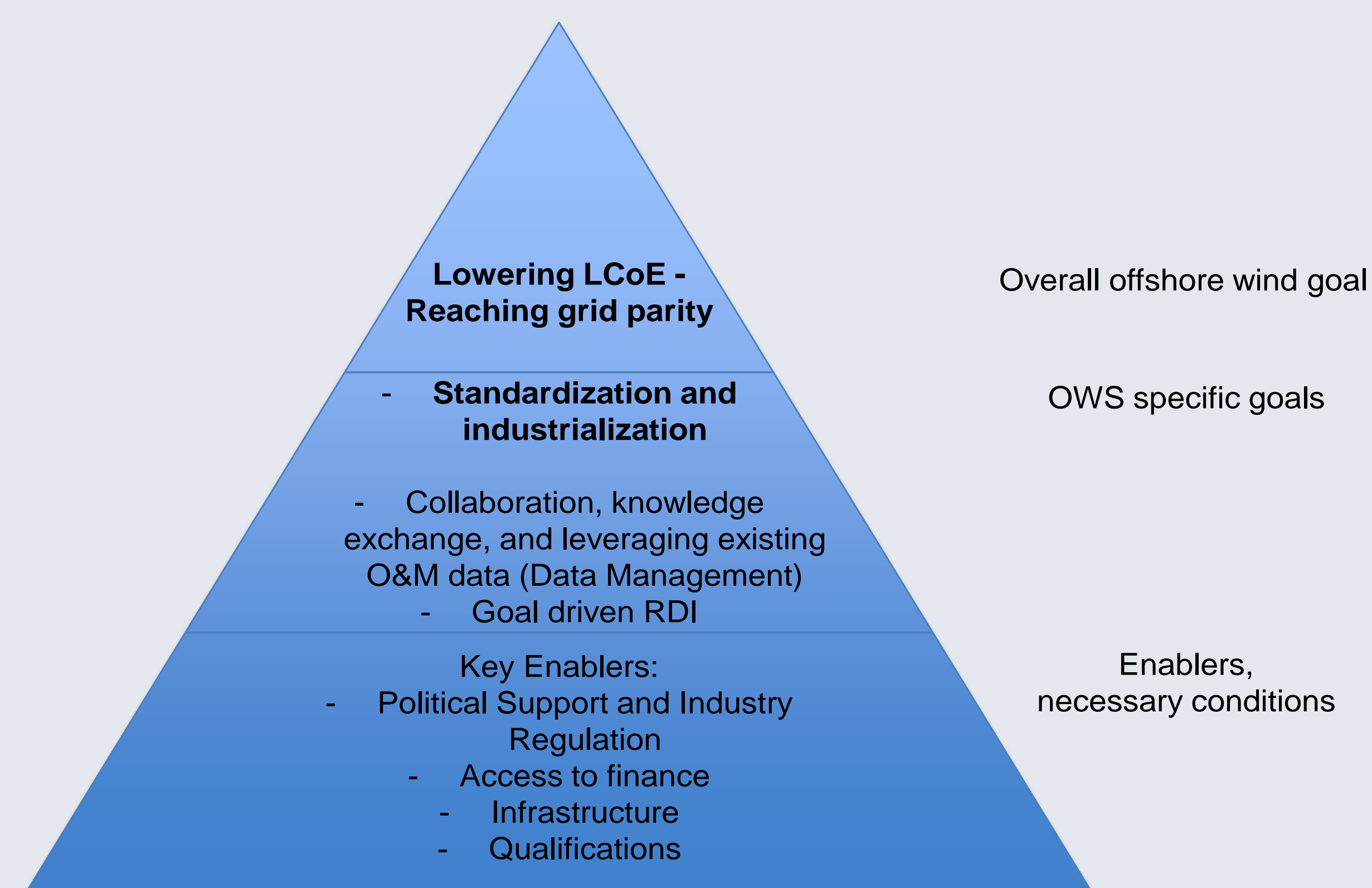
Methods

Developing the JAP builds on a mapping (based on desk studies, patent analyses, and bibliometrics) of each of participating region's existing capabilities, and on an overall strategic orientation and options for an innovation and research strategy (based on stakeholder workshops in the four regions). From this foundation the JAP was established through a workshop with stakeholders from the four regions, comprising representatives from R&D and education, policy makers and offshore wind industry. Following the workshop, the ECOWindS consortium has been developing the proposed action plan further based on consultations with the stakeholders of the industry. More than 50 stakeholders from the four countries were involved in the process.



Objectives

The objective has been to develop an international, cross-regional, agenda for research, development and innovation *specifically* for Offshore Wind Services. The aim of the JAP WP is to establish a trans-national plan of action for supporting the development of Offshore Wind Service (OWS) industry through measures of Research, Development and Innovation (RDI). The JAP is an agenda for collaboration aimed to develop new and improved OWS business models, technologies and other concepts in support of general offshore wind cost reduction targets.



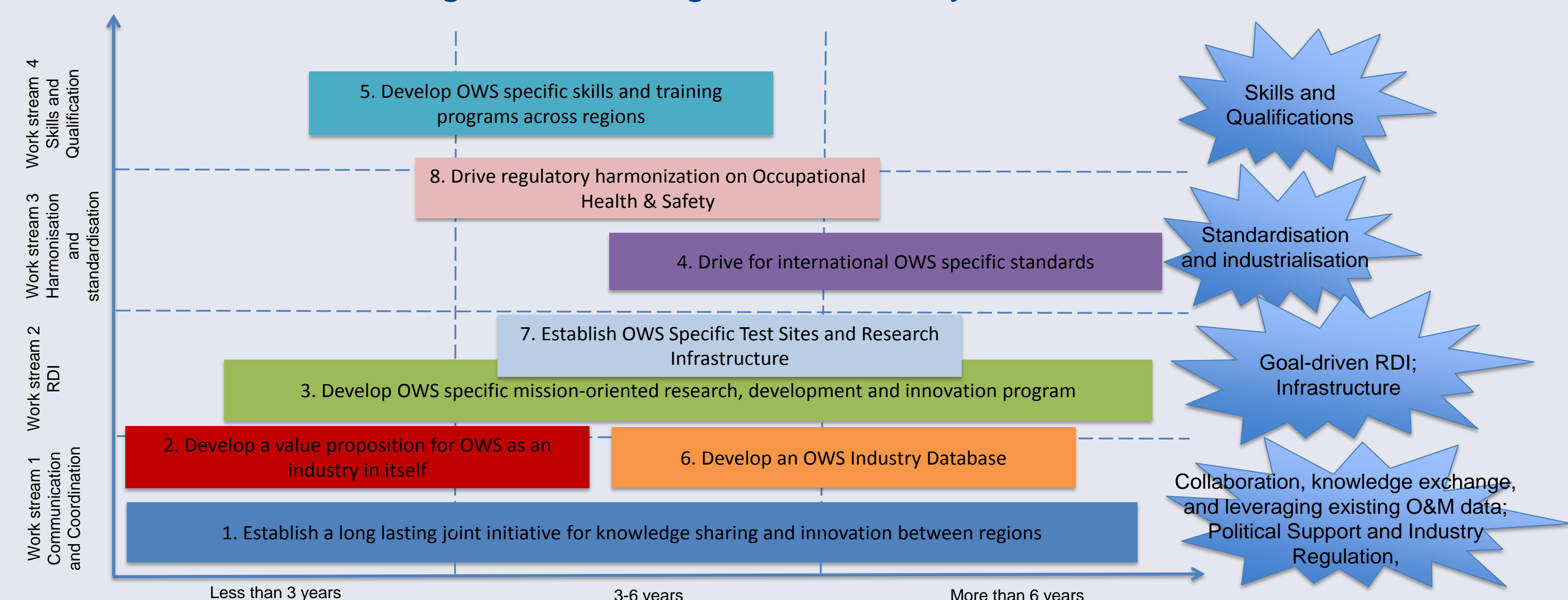
The JAP is a complement to other research agendas on wind power presented or under development by other organizations by approaching the challenges of offshore wind from the service perspective (e.g. EERA and TPWind).

Overview to the Joint Action Plan

The action plan consists of 8 proposed actions, which can be divided into four parallel work streams which support each other. The action themselves can be viewed as projects or programmes that make up a portfolio for OWS development.

The central storyline of the JAP is that through development of inter-regional interconnections, the OWS enterprises gain complementary capabilities and are able to deliver new and improved services for the operators. At the same time the networking that creates closer business relations enables quicker and more candid feedback within the whole offshore wind ecosystem that enables standardization of components, processes and practices, which lays foundations for the continuous improvement of the OWS service delivery.

To summarise the following figure illustrates the sequence of the proposed actions and their relations to the goals of the industry. Each work stream contributes to one or more sub goals set for the JAP, which together take OWS and offshore wind closer to the overall target of lowering LCoE 40% by 2020.



The coordination work stream creates a basis for concerted action and serves to build the collaborative relations and consortia needed for effective goal-driven RDI that in itself contributes to the goal of establishing RDI to develop cost-reducing innovations. The third work stream builds on the previous ones and contributes both to technical standardisation and harmonisation of skills and qualifications. Last but not least, the fourth work stream directly contributes to skilled and qualified work force for OWS.

Conclusions

A key to successful implementation of the JAP and the actions within it is that they aim to bridge national interests together, to enable cross border collaboration starting particularly around the North Sea and extending overseas as the industry grows. The rationale is to leverage the best capabilities to enable mutual learning across European regions. Further, international scope of the projects enables attracting a wider base of funding, as well as a greater impact. To summarise the key messages of the JAP and to pave the way to a successful future of OWS, we round up the discussion by reinforcing some of the key points;

Rally around the vision for stronger offshore wind services – ensuring it becomes a recognised industry in itself in which industrialisation and purposeful R&D lead to standardisation, interoperability between components, and efficient installation and O&M services.

Leverage the close ties and proximity of actors around the North Sea for purposeful RDI – ensuring industry and research organisations collaborate to benefit from the sharing of complementary capabilities and expertise, and facilitating more candid feedback within the whole offshore wind ecosystem.

Pay attention to building the actions and follow through to implementation – the ECOWindS consortium and the JAP are laying the foundations of each action and facilitating appropriate consortia for their implementation. Inter-regional partners must be involved to leverage the best capabilities to enable mutual learning across European regions. Further, international scope of the projects enables attracting a wider base of funding, as well as an impact.

The Joint Action Plan is available on ECOWindS website: www.ecowinds.eu

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